

## Case Study 2

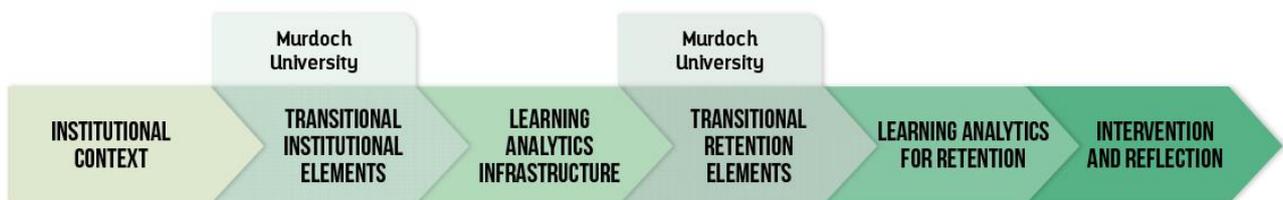
### Murdoch University

This case study presents an overview of the current learning analytics planning and development processes at Murdoch University. With reference to the framework the case study sits at the *Transitional Institutional Elements* point between *Institutional Context* and the *Learning Analytics Infrastructure* sections. It also relates strongly to the *Transitional Retention Elements* section. Whilst Murdoch uses analytics to support student retention in some ways, the case study describes how learning analytics use might become more integrated across the institution through a conscious planning process that takes into account existing strategies and infrastructure and institutional need and aspirations in relation to retention. As part of this process Murdoch is using the framework itself to shape discussions and identify key issues that might arise.

In a practical sense, the Murdoch case study illustrates one of the key learnings from the surveys and interviews conducted during the project, which is that learning analytics use in many institutions presently takes the form of centralised projects underpinned by institutional sponsorship and/or localised projects driven by motivated and interested individuals and teams. Current activities described in the case study highlight that these projects often have quite different points of focus. This suggests a major challenge with learning analytics is helping different stakeholders understand how learning analytics might be used at the institution, especially in light of the chosen investments in data infrastructure and analytics tools.

Overall, the Murdoch case study illustrates that because learning analytics methods and concepts are still being defined one of the key challenges for institutions is to explicitly incorporate a rapidly evolving field coherently into their forward planning.

The figure below illustrates where the Murdoch case study fits in relation to the *Let's Talk Learning Analytics and Retention* framework.



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## Institutional Background

Murdoch University is located in Perth, Western Australia with campuses located south of Perth at Rockingham and Peel. Murdoch also has a strong involvement in international education, with campuses in Singapore and Dubai. Currently in its fortieth year, Murdoch has approximately 26,000 students, of who approximately 6,000 are located offshore and 1,600 international onshore students. Murdoch also has 1,500 online Open Universities Australia students. Murdoch has approximately 2,000 staff, of which about 800 are academic.

Murdoch has a long history of quality teaching, with a particular focus on interdisciplinary studies and a strong commitment to access and equity. Murdoch has a number of alternative entry pathways, including some that focus on students returning to study later in life. It has consistently delivered high quality learning and teaching.

There are eight Schools, those being; Engineering and Information Technology, Veterinary and Life Sciences, Management and Governance, Arts, Health Professions, Psychology and Exercise Science, Education, and Law. Following major curriculum reform in 2012-13, Murdoch now has 7 undergraduate degrees with more than 80 majors and approximately 100 postgraduate degrees. Each of the undergraduate degrees includes a transition to university study unit, research skills units in the second and third years, and inter-disciplinary units in each year.

Currently, Murdoch uses a hosted Moodle solution for its Learning Management System (LMS), having migrated from Blackboard in 2013, and uses Callista as its Student Information System (SIS). The LMS and SIS are integrated to the extent that student enrolment data in the LMS is populated from the SIS; including the student's enrolment type (on-off campus) and tutorial/workshop allocations. The current Business Intelligence (BI) environment focuses on management and analytical reports. Student data are presented as aggregated load figures.

## Learning Analytics at Murdoch

Until mid-2014, Learning Analytics at Murdoch had been relatively ad-hoc. Some strategies aimed at student retention, and based on data collected in first year units, had been instituted. In many cases these data were collected and reported manually by tutors and academic staff and students who had exhibited "at-risk" behaviours. These at-risk indicators included:

- Non-attendance at tutorials
- Missing multiple classes
- Non-submission of an early assessment item
- Non-engagement in online tutorials.

First Year Advisors, located in each of the Schools, were then able to access the data and frame appropriate follow up strategies including emails, telephone calls and invitations to face-to-face meetings.

In late 2014 the new Pro Vice Chancellor Learning and Teaching established a "Learning Analytics Group" (LAG). This group consisted of stakeholders from the academy, the Learning Management System (LMS) support and implementation teams, the Business Intelligence (BI) team, the student advisor network, the Centre for Teaching and Learning (CUTL) and the Quality Assurance group (QA).

This group has since focused on the following six aspects of LA:

### **1. Establishment of links between the in-development University retention strategy and learning analytics**

The university is currently developing an updated retention strategy of which one of the central elements is “data and analytics”. The four main themes of this strategy are:

- **Improved analysis and use of systems data**
  - This recognises that there is currently little analysis of student-related data with the exception of unit and teaching surveys
  - For this to be useful, there needs to be investment in resources and staff in order to gain significant insight into the student community and to allow for potential identification of unique factors affecting retention, facilitate better identification of at-risk students and allow for better evaluation of strategies and actions
  - Better integration of the SIS and LMS in order to provide rich data linking a range of factors with a history of students’ engagement with the university to allow for better personalization, identification of critical timings and broader student behaviours.
- **Student retention and at-risk dashboard**
  - Currently, data on student retention is available through the management-reporting environment but is not consistently used, or found to be useful, for support staff particularly in day-to-day operations
  - At-risk factors (as described above) are reliant upon manual reporting, which is in part being driven on student engagement with LMS, enrolment and other system, integration within a dashboard and reporting environment may assist in shifting some of the work from academic staff along with giving staff greater visibility of student behaviours at an institution, School and course level.
  - Creation of a Student Retention and At-Risk dashboard would be very useful in assisting staff to provide a timely response to students and cohorts at-risk, provide meaningful feedback on intervention activities and greatly improve planning for student retention.
- **Improved and consistent surveying**
  - One of the significant data gaps is any qualitative or quantitative data linked to the factors affecting student retention. Much of this data could be gleaned from existing surveys but there is limited awareness of surveying activities or sharing of the data, particularly to connecting it to retention.
  - Some survey work has been undertaken to gather information on attrition, however this has been inconsistently applied and varied annually making it difficult to compare or respond to the findings.
  - Surveying activity needs to be owned centrally with suitably qualified staff able to construct useful tools, analyse the data or advise on alternate resources.

- **Improved international student data analysis and reporting**

- The National Code and Streamlined Visa Program (SVP) either mandate or strongly recommend greater analysis of retention and the student experience broadly alongside the argument for a stronger student experience as a marketing tool.
- Better analysis of international student retention will assist in identifying cohorts at-risk and preparing cohort-specific pre-departure, transition and monitoring tools. This information could also be used in a recruitment and admission context to evaluate pathways and agents to assist with managing risk and operational efficiency.

## **2. Exploration of the range of learning analytics tools available in Moodle**

The university's LMS is currently Moodle. It has a number of built-in tools for analysing and presenting data from access logs that can be useful in developing intervention strategies by the individual academic at unit level. There are also a number of learning analytics add-ins that are being progressively made available to teaching staff, including GISMO<sup>1</sup> and a learning engagement dashboard currently being developed in-house.

## **3. Student journey mapping**

The student journey has multiple points of interaction between the student and various university systems. Understanding the journey, the interactions, and the hot spots that impact on student retention will be an important aspect of learning analytics at the university.

## **4. Exploration of existing data sets**

The university currently collects and holds a wide variety of data on students and their interactions with the university. There is currently a project aimed at mapping these systems in order to better understand the breadth of data that is available and what impact it might have in the context of student retention.

## **5. Establishment of a set of piloted units during Semester 1, 2015**

A number of unit coordinators have been approached to participate in a pilot of some of the tools available in the LMS during Semester 1, 2015. These academic staff will be provided with assistance in the use of the tools and asked to comment on how they use them as the semester progresses, and their perception of the impact of these tools at unit level.

## **6. Participation in the Open Universities Australia (OUA) LA pilot project**

OUA is currently rolling out a LA project, of which the first deliverable is a Unit Coordinator/Tutor dashboard. This will be trialled in larger OUA units offered through Murdoch in the first study period of 2015. The implementation plan is for a student dashboard to be trialled in the second study period.

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<sup>1</sup> Graphical Interactive Student Monitoring Tool for Moodle: <http://gismo.sourceforge.net>

## Key Lessons and Findings

It has become apparent at Murdoch that for LA to be viable, there must be senior leadership sponsorship. This is particularly important when trying to integrate data from multiple systems. Without senior leadership sponsorship, the default response from business owners of systems is to not allow access to data.

Involvement of a wide range of stakeholders will allow the multiple perspectives and experiences that are characteristic of a university environment to be involved and have ownership of LA. To view LA as only relevant to the learning and teaching academics, or to the LMS, or to the SIS, is to ignore the valuable input that can be provided. In Murdoch's case, input from the management reporting (BI) team was invaluable in terms of their knowledge of the current reporting environment and what was possible. Similarly, input from academics, as well as colleagues involved in learning support and student support, has been able to provide some idea as to the questions that LA can be setting out to answer.

For LA to be more widely used in the academic community, there needs to be champions at school/discipline/programme-level who can produce case studies relevant to colleagues that can clearly outline the benefits to both the academic and the students.